Riparian Buffers in Oregon CZARA

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General ways to get to approvable program

- **Ex. 5 - Deliberative**

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Medium and Small-Fish Bearing Streams: Regulatory Program

Deficiencies: Small no-cut buffer for small and medium fish-bearing streams. Creates temperature, sediment, and runoff problems.

1. **Regulatory Program Needs:**
   a. Riparian rule should be completed by end of 2015.
   b. Scope of waters should include all waters with salmon, steelhead, and bulltrout, and colder waters a certain distance upstream of where salmonids and fish are present.
   c. Buffers should be at least 75-100 feet. Note that ODF is in the process of analyzing RipStream results to determine appropriate buffer sizes for small and medium fish-bearing streams.

What Oregon Proposed:

- Regulatory: Riparian buffer/management requirements for fish-bearing streams (~20 ft no cut and harvest restrictions to ~50-70 ft from stream).
- Potential Rule Change: Board of Forestry is considering increasing riparian protection requirements for fish-bearing streams.

Why Oregon's Efforts Are Not Sufficient:

- Scientific, state and ODF studies clearly indicate that riparian protection around small and medium fish bearing streams and non-fish bearing streams in Oregon is not sufficient to protect water quality and beneficial uses.
  - The 2011 ODF RipStream study found that FPA riparian protections on private forest lands did not ensure achievement of the Protection of Cold Water criterion (PCW) under the Oregon water quality standard for temperature.
  - Even the Board of Forestry has acknowledged current rules are not adequate to protect small and medium fish-bearing streams.
- Achieving proposed rule change would be an important accomplishment for Oregon but the rule must be adopted, the riparian buffer protective, and it must apply to all small and medium fish-bearing streams.

- Oregon's buffer protections are also much less stringent than requirements for neighboring states and federal lands.
- Forestry industry and some commenters cited results from a Watersheds Research Cooperative ("paired watershed study") as evidence that current FPA riparian buffers are effective at achieving water quality standards and protect designated uses.
    - Net overall temperature decrease after clear-cut harvesting along non-fish bearing streams were likely because of increased slash debris along the stream after harvest, not allowed by FPA.
    - Without slash, temperature results are consistent with RipStream fundings.

Small, Non-fish bearing streams: voluntary approach

Deficiencies: No buffers for non-fish bearing streams. (Note: Non-fish bearing streams make up at least 70% of the stream miles in Oregon coastal areas.) Creates temperature, sediment, and runoff problems for salmon spawning areas and downstream habitat.

1. **Voluntary Approach Needs:**
    a. **Program Description –** Voluntary buffers and protections from 50-100 feet. Scope should include non-fish bearing streams especially those affecting downstream water quality above confluences of nonfish bearing streams and fish-bearing streams, buffering hollows, inner gorges, headwalls, unstable landforms, and stream initiation points, and special aquatic sites like seeps, springs, wetlands and beaver ponds.
    b. **Monitoring and Tracking –** Monitoring and tracking similar to other ODF programs
    c. **Enforceable Mechanism –** Explore ODF and DEQ general authorities for enforcing changes in critical areas when voluntary measures are not implemented

What Oregon Proposed:

- No regulatory buffer requirements for non-fish streams
- Voluntary: Voluntary measures such a large wood placement, retaining additional basal area, and treating non-fish bearing streams as fish-bearing streams.

Why Oregon's Efforts Are Not Sufficient:

- Scientific, state and ODF studies clearly indicate that riparian protection around non-fish bearing streams in Oregon is not sufficient to protect water quality and beneficial uses.
    - The 2011 ODF RipStream study found that FPA riparian protections on private forest lands did not ensure achievement of the Protection of Cold Water criterion (PCW) under the Oregon water quality standard for temperature.
- Oregon's buffer protections are also much less stringent than requirements for neighboring states and federal lands.
- Forestry industry and some commenters cited results from a Watersheds Research Cooperative ("paired watershed study") as evidence that current FPA riparian buffers are effective at achieving water quality standards and protect designated uses.
    - Net overall temperature decrease after clear-cut harvesting along non-fish bearing streams were likely because of increased slash debris along the stream after harvest, not allowed by FPA.
    - Without slash, temperature results are consistent with RipStream fundings.

Roads in Oregon CZARA

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Roads: Voluntary Approach

Deficiencies: Does not include legacy roads. Voluntary program doesn't include monitoring and tracking.

1. **Voluntary Approach Needs:**
    a. **Program Description**
        i. Move forward with establishing road survey or inventory program that considers both active, inactive, and legacy roads.
        ii. The program should establish a timeline for addressing priority road issues, including retiring or restoring forest roads that impair water quality.
    b. **Monitoring and Tracking –**
        i. Develop a requirement to track and report on progress to remediate identified forest road problems. Implementation principles could include addressing the worst road problems or highest risk categories earlier in the overall timeline.
        ii. Milestone-based targets
        iii. Identify effective BMPs for road siting, construction, operation and maintenance.
        iv. BMP identification and development could establish targets for the maximum percentage of a road network allowed to discharge directly to streams and other waterbodies.
        v. Periodic monitoring or inspections.
    c. **Enforceable Mechanism –** Explore ODF and DEQ general authorities for enforcing changes in critical areas when voluntary measures are not implemented

What Oregon Proposed

- Regulatory: Board of Forestry has made several improvements to general road maintenance measures to improve water quality:
    - establishment of a "Critical Locations" policy to avoid building roads in critical locations such as high hazards landslide areas, steep slopes, or within 50 feet of waterbodies;
    - creation of additional rules to address wet-weather hauling; and
    - revision of an existing road drainage rule to reduce sediment delivery
- Voluntary: several different restoration and monitoring activities including:

- OWEB voluntary Road Hazard and Identification and Risk Reduction Project where forestland owners survey road networks to identify roads that pose risks to salmonid habitat and prioritize roads for remediation. Oregon reports that thousands of road miles have been inspected and repaired across Oregon since the inception of this program in 1997.
- Cooperative agreement with the USDA Forest Service to update the State's GIS data layer for forest roads. The data layer will help Oregon conduct a rapid road survey to evaluate and prioritize road risks to soil and water resources.
- Undertaking a third-party audit in 2014 to assess compliance with the FPA rules governing forest road construction and maintenance.

Why Oregon's Efforts Are Not Sufficient

- 2005 Oregon Coastal Coho Assessment by OWEB/ODFW shows that old roads make up majority of forest roads, and road inventory on private land is not widely available.
- New Regulatory Drainage Requirements: The rule changes and new policies do not sufficiently address water quality problems associated with "legacy roads" (e.g., roads that do not meet current state requirements with respect to siting, construction, maintenance, and road drainage). Requirements are triggered only when new road construction or re-construction of existing roads occurs.
- Voluntary Road Hazard/Identification Program: Oregon did not indicate the program's impact within the coastal nonpoint program management area or how many of these projects addressed active forest roads and roads retired according to current FPA practices versus problems associated with older, legacy roads.
- Agreement with USDA to Update GIS Data Layers: Oregon submittal noted it hoped to begin survey in 2014; therefore this survey cannot count towards coastal NPS program until completed. Also, federal agencies are not aware if the survey and GIS layer will consider legacy roads or how Oregon will use the data to direct future management actions.
- Third-Party Audit: Issues resulting from legacy roads and general road maintenance issues where construction or reconstruction is not occurring would not be captured during compliance audit of FPA rules since these issues are outside the scope of rules.

Landslide-Prone Areas in Oregon CZARA

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Landslide-Prone Areas: Voluntary Approach

Deficiencies: Does not protect for water resources.

1. **Voluntary Approach Needs:**
    a. **Program Description**
        i. Develop scientifically rigorous process for identifying high-risk areas and unstable slopes based on field review by trained staff. Slope, landform, sediment and wood delivery potential and geologic factors should be used in the designation. LiDAR and DEMs are useful tools to identify and designate areas.
        ii. Adopt harvest and road construction restrictions similar to those where landslides pose risks to life and property, for all high-risk landslide prone areas with moderate to high potential to impact water quality and designated uses.
        iii. Develop more robust voluntary programs to encourage and incentivize forestry best management practices to protect high-risk landslide areas that have the potential to impact water quality and designated uses, such as no-harvest restrictions around high-risk areas and building roads that minimize slope failures.
        iv. Integrate processes to identify high-risk landslide prone areas and specific best management practices to protect these.
    b. **Monitoring and Tracking**
        i. Institute a monitoring program to track compliance with the FPA rules and voluntary guidance for high-risk landslide prone areas and the effectiveness of these practices in reducing slope failures.
        ii. Establish a monitoring program that assesses the underlying causes and water quality impacts of landslides shortly after they occur and generates specific recommendations for future management. In particular, look for ways to reduce channelized landslides.
    c. **Enforceable Mechanism –** Explore ODF and DEQ general authorities for enforcing changes in critical areas when voluntary measures are not implemented

What Oregon Proposed

- Regulatory: Amended FPA rules to require the identification of landslide hazard areas in timber harvesting plans and road construction and to place certain restrictions on harvest and road activities within these designated high-risk landslide areas for *public safety*.
- Voluntary: Promotes voluntary practice through Oregon Plan; gives landowners credit for leaving standing live trees along landslide-prone areas as a source of large wood.

Why Oregon's Efforts Are Not Sufficient:

- A number of studies continue to show significant increases in landslide rates after clear cutting compared to unmanaged forests in the Pacific Northwest. Research also shows that landslides degrade water quality and impair designated uses in Pacific Northwest streams.
- Regulatory Approach: Landslide hazards are addressed only as they relate to risks for losses of life and property, *not for potential water quality impacts*. Oregon still allows timber harvest and the construction of forest roads, where alternatives are not available, on high-risk landslide hazard areas as long as it is not deemed a public safety risk.
- Voluntary Approach: Practice is not designed to protect high-risk erosion areas but rather to ensure large wood is available to provide additional stream complexity when a landslide occurs.

Spray Buffers for Aerial Application of Herbicides on Non-fish Bearing Streams in Oregon CZARA

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Spray Buffers for Aerial Application of Herbicides on Non-fish Bearing Streams: Voluntary Approach

Deficiencies: No spray buffer. Non-fish bearing streams make up at least 70% of Oregon coast stream network. Aerial drift and primary and secondary impacts to aquatic and terrestrial life.

1. **Adequate riparian protections for non-fish bearing streams may also be sufficient for herbicide spray buffers; OR**
2. **Voluntary Approach Needs:**
    a. **Program Description**
        i. Guidelines for voluntary buffer protections for aerial application of herbicides on non-fish bearing streams
        ii. Educate and train aerial applicators of herbicides on the new guidance and how to minimize aerial drift to waterways, including non-fish bearing streams and surrounding communities;
        iii. Provide better maps of non-fish bearing streams and other sensitive sites and structures to increase awareness of these sensitive areas that need protection among the aerial applicator community; and
        iv. Employ GPS technology, linked to maps of non-fish bearing streams to automatically shut off nozzles before crossing non-fish bearing streams.
        v. Revise ODF Notification of Operation form to add a check box for aerial applicators to adhere to FIFRA labels for all stream types.
    b. **Monitoring and Tracking**
        i. Track the implementation of voluntary measures for the aerial application of herbicides along non-fish bearing streams and assess the effectiveness of these practices to protect water quality and designated uses;
    c. **Enforceable Mechanism –** Explore ODF and DEQ general authorities for enforcing changes in critical areas when voluntary measures are not implemented

What Oregon Proposed:

- Regulatory:
    - Follows FIFRA label requirements.

  - ODF requires all pesticide applicators to complete a notification form of potential pesticides that may be applied.
  - ODF/ODA require pesticide applicators undergo training and obtain licenses. Training includes a review of regulations and requirements for protecting streams during aerial application. To reduce aerial drift, Oregon has guidance that instructs applicators to consider temperature, relative humidity, wind speed, and wind direction.
- Voluntary:
  - Water Quality Pesticide Management Plan: The plan is an interagency guide providing state-wide and watershed-level actions to protect surface and groundwater from potential impacts of pesticides, including herbicides. The plan, approved by EPA Region 10, describes a continuum of management responses, ranging from voluntary to regulatory actions the state could take to address pesticide issues. The plan focuses on using water quality monitoring data as the driver for adaptive management actions.
  - Pesticide Stewardship Partnership: Pilot pesticide water quality monitoring effort. ODEQ works with State and local partners to collect and analyze water samples and use the data to focus technical assistance and best management practices on streams and pesticides that pose a potential aquatic life or human health impact.

Why Oregon's Efforts Are Not Sufficient

- Oregon does not require riparian buffers during forest harvests along non-fish bearing streams, which might otherwise provide a spray buffer to filter herbicide-laden runoff before it enters the streams.
- NMFS BiOp for several EPA herbicide labels identifies aerial drift as the most likely pathway for herbicides to enter aquatic habitats affecting primary and secondary production. NMFS concluded that products containing 2,4-D are likely to jeopardize the existence of all listed salmonids and adversely modify or destroy critical habitat. Products containing diuron were also likely to adversely modify or destroy critical habitat.
- ODF's Notification Form: The form does not include guidance for spraying over non-fish bearing streams. Also allows for applicator to list many possible pesticides so it is difficult to determine which pesticide is actually applied.
- Water Quality Pesticide Management Plan and PSP: Water quality monitoring data on pesticides is still limited in Oregon. Oregon has only established eight pilot PSP monitoring areas in seven watersheds, none of which are within the coastal nonpoint management area. Difficult to operate an adaptive management-driven program if you lack data to know when adjustments are needed.
- FIFRA: EPA, NMFS, USFWS and USDA are working to improve the national risk assessment process for pesticide labels but don't expect to update herbicide labels for ~ 15 yrs.
- Oregon and other Pacific Northwest states have already recognized the need to go beyond the national FIFRA label requirements. Neighboring states have stricter buffer requirements for herbicides application along non-fish bearing streams.

Agriculture in Oregon CZARA

Note: EPA and NOAA are still evaluating Oregon's agricultural program in the context of CZARA and public comments. Concerns include lack of specificity in Ag Water Quality Management Action Plan rules, no formal monitoring and tracking, and limited enforcement

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Agriculture: Voluntary Approach

Deficiencies:

What Oregon Proposed:

Why Oregon's Efforts Are Not Sufficient